

What Is Claimed Is:

1. A method for function testing an analog-digital converter, the analog-digital converter performing a function for converting at least one analog signal into at least one digital signal using a first predetermined reference voltage, wherein the analog-digital converter is able to perform the function alternatively using at least one other reference voltage, in particular a predetermined second reference voltage, the analog-digital converter being blocked to prevent use of at least the other reference voltage, in particular the second reference voltage, by the analog-digital converter, a predetermined analog signal being converted into a digital signal for the function test and the digital signal being analyzed.
2. The method as recited in Claim 1, wherein an analog signal is converted using the first reference voltage and, for the function test, the digital signal converted using the first reference voltage is analyzed with an expected predetermined signal using the first reference voltage.
3. The method as recited in Claim 1, wherein an analog signal is converted using the first reference voltage and, for the function test, the digital signal converted using the first reference voltage is analyzed with an expected predetermined signal using the second reference voltage.
4. The method as recited in Claim 1 or Claim 2 or Claim 3, wherein, for the function test, the reference voltage used for the conversion is determined from the digital signal converted from the predetermined analog signal, and the reference voltage thus determined and used for the conversion is compared with at least one

predetermined reference voltage.

5. The method as recited in Claim 1 or Claim 2 or Claim 3, wherein for the function test, the digital signal converted from the predetermined analog signal is compared with at least one expected digital signal.
6. The method as recited in Claim 4, wherein, depending on the comparison of the determined reference voltage with the at least one predetermined reference voltage, errors are detected and a predetermined error response occurs, the error response being dependent in particular on the reference voltage determined.
7. The method as recited in Claim 5, wherein, depending on the comparison of the digital signal converted from the predetermined analog signal with the at least one expected digital signal, errors are detected and a predetermined error response occurs, the error response being dependent in particular on the digital signal converted from the predetermined analog signal.
8. The method as recited in Claim 6 or Claim 7, wherein an error response occurs when in the comparison, no correspondence is achieved within a predeterminable tolerance.
9. The method as recited in Claim 6 or Claim 7, wherein an error response occurs when in the comparison, a correspondence is achieved within a predeterminable tolerance.
10. The method as recited in Claim 1, wherein at least two analog signals are suppliable to the analog-digital converter for conversion and only exactly

one reference voltage is assigned to at least one of the at least two analog signals for conversion.

11. The method as recited in Claim 1, wherein at least one first analog signal is converted as a first group of first signals to which only exactly one reference voltage is assigned for conversion, and at least one second analog signal is converted as a second group of second signals to which at least two reference voltages are assignable for conversion.
12. The method as recited in Claim 11, wherein the first group of first analog signals is assigned to a first analog-digital converter (ADC1) and the second group of second analog signals is assigned to a second analog-digital converter (ADC2).
13. The method as recited in Claim 1, wherein the function test is performed on a predetermined analog test signal.
14. The method as recited in Claim 1, wherein the function test is performed exclusively on a predetermined analog test signal.
15. The method as recited in Claim 1, wherein the analog-digital converter is operable in two modes, a first mode allowing the use of different reference voltages for conversion and a second mode allowing only one reference voltage for conversion.
16. The method as recited in Claim 1, wherein at least two values for different reference voltages are stored in a table in a memory and one reference voltage is predetermined for use in the conversion by selecting a value.

17. The method as recited in Claim 11,  
wherein the function test is performed only for the first  
group of first analog signals.
18. A device having an analog-digital converter for function  
testing the analog-digital converter, the analog-digital  
converter performing a function for converting at least  
one analog signal into at least one digital signal using  
a first predetermined reference voltage,  
wherein the analog-digital converter is able to perform  
the function alternatively using at least one other  
reference voltage, in particular a predetermined second  
reference voltage, first means being included which block  
the analog-digital converter so that use of at least the  
other reference voltage, in particular the second  
reference voltage, by the analog-digital converter is  
prevented, a predetermined analog signal being converted  
into a digital signal for the function test, and second  
means being included that analyze the digital signal  
formed by the conversion.
19. An analog-digital converter having means for function  
testing of same, the analog-digital converter performing  
a function for converting at least one analog signal into  
at least one digital signal using a first predetermined  
reference voltage,  
wherein the analog-digital converter is able to perform  
the function alternatively using at least one other  
reference voltage, in particular a predetermined second  
reference voltage, first means being included which block  
the analog-digital converter so that use of at least the  
other reference voltage, in particular the second  
reference voltage, by the analog-digital converter is  
prevented, a predetermined analog signal being converted  
into a digital signal for the function test, and second  
means being included that analyze the digital signal  
formed by the conversion.